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10/660,952	09/12/2003	Thomas H. James	PD-202107	7018

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 April 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4-8,10,11,13-17 and 19-26</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,4-8,10,11,13-17 and 19-26</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>12 September 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>1/22/08, 1/25/08</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/10/08

has been entered.

Response to Arguments

2.   Applicant's arguments filed 4/10/08 have been fully considered but they are not

persuasive.

In response to applicant's argument that Friedman and Frian are nonanalogous art, it

has been held that a prior art reference must either be in the field of applicant's

endeavor or, if not, then be reasonably pertinent to the particular problem with which the

applicant was concerned, in order to be relied upon as a basis for rejection of the

claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir.

1992). In this case,   Friedman was cited for disclosing triggering an alarm when the

threshold is exceeded (column 10, line 65-column 11, line 7). Specifically Friedman

teaches of an alarm that is triggered when a modulated audio tone is detected as

exceeding a preset threshold.

        Frian was cited for disclosing generating an alarm based on loss of the audio

signal. Frian discloses detecting the loss of audio and sending a signaling tone to the

base station in response to the detection (column 9, lines 49-54). Specifically Frian

discloses sending a signaling tone (alarm) when the loss of an audio tone is detected.

Therefore, the cited passages of both references are pertinent to the particular problem

with which the applicant was concerned.

In response to applicant's argument that there is no suggestion to combine the

references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention

where there is some teaching, suggestion, or motivation to do so found either in the

references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re

Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Friedman was

cited for disclosing a means for triggering an alarm when the threshold is exceeded

(column 10, line 65-column 11, line 7). Specifically Friedman teaches of an alarm that

is triggered when a modulated audio tone is detected as exceeding a preset threshold .

The examiner used the motivation statement that it would have been obvious to modify

McDowell to include a means for triggering an alarm when the threshold is exceeded in

order to provide an audible indication to the user to alert the user of a possible problem

(motivation is knowledge generally available to one of ordinary skill).

Frian was cited for disclosing generating an alarm based on loss of the audio

signal. Frian was cited for detecting the loss of audio and sending a signaling tone to

the base station in response to the detection (column 9, lines 49-54). Specifically Frian

discloses sending a signaling tone (alarm) when the loss of an audio tone is detected.

The examiner used the motivation of it would have been obvious to modify McDowell as

modified to set the thresholds to generate the alarm when a loss of the audio signal is

detected so that the user can be advised that communication has been terminated or

loss (motivation found in the reference, see Frian, column 9, line 52-55).

3.   Claims 3,9,12,18,21 and 27 are cancelled.

4.   The applicant has amended claims 6,15 and 24 to overcome the claim objection

set forth in the previous office action.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1,8,10,17,19 and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in

further view of Frian (US 6,047,178).

        Regarding claim 1, McDowell discloses a method of automatic measurement of

audio presence and level by direct processing of a data stream representing an audio

signal, comprising:

        (a) extracting sub-band data from the data stream (column 3, lines 24-28; column

10, lines 35-45; implicit) ;

        (b) dequantizing and denormalizing the extracted sub-band data (step 126 Figure

9; column 11, lines 6-11);

c) measuring an audio level for the dequantized and denormalized sub-band data without reconstructing the audio signal using channel characteristics (step 130 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or property. The examiner asserts that the sub-band data reads on channel characteristics since the sub-band data is implicitly unique to its input signal); and

(d) comparing the measured audio level against at least one threshold (step 136 Figure 9; column 12, lines 3-8).

McDowell fails to disclose means for triggering an alarm when the threshold is exceeded. Friedman discloses a means for triggering an alarm when the threshold is exceeded (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

Frian discloses generating an alarm based on loss of the audio signal. Frian discloses detecting the loss of audio and sending a signaling tone to the base station in response to the detection (column 9, lines 49-54; specifically Frian discloses sending a signaling tone (alarm) when the loss of an audio tone is detected. It would have been obvious to modify McDowell as modified to set the thresholds to generate

the alarm when a loss of the audio signal in the data stream is detected so that the user

can be advised that communication has been terminated or loss.

Regarding claim 8, McDowell as modified discloses threshold the audio level

(See McDowell,; step 136 Figure 9; column 12, lines 3-8).

Regarding claim 10, McDowell discloses an apparatus automatic measurement

of audio presence and level by direct processing of a data stream representing an audio

signal DTS, digital theater system, see title of invention; column 4, lines 50-67;columns

9-12), comprising:

(a) means for extracting sub-band data from the data stream (column 3, lines 24-

28; column 10, lines 35-45; means is implicit) ;

(b) means for dequantizing and denormalizing the extracted sub-band data (step

126, Figure 9; column 11, lines 6-11);

c) means for measuring an audio level for the dequantized and denormalized

sub-band data without reconstructing the audio signal using channel characteristics

(step 130 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing

feature, quality or property. The examiner asserts that the sub-band data reads on

channel characteristics since the sub-band data is implicitly unique to its input signal);

and

(d) means for comparing the measured audio level against at least one threshold

(step 136 Figure 9; column 12, lines 3-8).

McDowell fails to disclose means for triggering an alarm when the threshold is

exceeded.   Friedman discloses a means for triggering an alarm when the threshold is

exceeded (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

Frian discloses generating an alarm based on loss of the audio signal. Frian discloses detecting the loss of audio and sending a signaling tone to the base station in response to the detection (column 9, lines 49-54; specifically Frian discloses sending a signaling tone (alarm) when the loss of an audio tone is detected. It would have been obvious to modify McDowell as modified to set the thresholds to generate the alarm when a loss of the audio signal in the data stream is detected so that the user can be advised that communication has been terminated or loss.

All elements of claim 10 are comprehended by McDowell as modified (See McDowell as applied above to the rejection of claim 1). McDowell discloses a system and method, the system reading on apparatus (DTS, digital theater system, see title of invention; column 4, lines 50-67;columns 9-12)

Regarding claim 17, McDowell as modified discloses threshold the audio level (See McDowell; step 136 Figure 9; column 12, lines 3-8).

Regarding claim 19, McDowell discloses a method and of automatic

measurement of audio presence and level by direct processing of a data stream

representing an audio signal, comprising:

(a) extracting sub-band data from the data stream (column 3, lines 24-28;

implicit) ;

(b) dequantizing and denormalizing the extracted sub-band data (step 126 Figure

9; column 11, lines 6-11);

c) measuring an audio level for the dequantized and denormalized sub-band data

without reconstructing the audio signal using channel characteristics (step 30 Figure 9;

column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or

property. The examiner asserts that the sub-band data reads on channel

characteristics since the sub-band data is implicitly unique to its input signal); and

(d) comparing the measured audio level against at least one threshold (step 136

Figure 9; column 12, lines 3-8).

McDowell fails to disclose means for triggering an alarm when the threshold is

exceeded.   Friedman discloses a means for triggering an alarm when the threshold is

exceeded (column 10, line 65-column 11, line 7; specifically Friedman teaches of an

alarm that is triggered when a modulated audio tone is detected as exceeding a preset

threshold). It would have been obvious to modify McDowell as modified to include a

means for triggering an alarm when the threshold is exceeded in order to provide an

audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

Frian discloses generating an alarm based on loss of the audio signal. Frian discloses detecting the loss of audio and sending a signaling tone to the base station in response to the detection (column 9, lines 49-54; specifically Frian discloses sending a signaling tone (alarm) when the loss of an audio tone is detected. It would have been obvious to modify McDowell as modified to set the thresholds to generate the alarm when a loss of the audio signal in the data stream is detected so that the user can be advised that communication has been terminated or loss.

McDowell fails to disclose computer readable medium comprising a program storage device embodying executable instructions. The examiner takes official notice that a computer storage medium embodied with a program having executable instructions was known in the art. It would have been obvious to modify McDowell as modified by having an article of manufacture that included a program storage device embodying executable instructions to provide more efficient processing and sop that the method of automatic measurement could be applied to various apparatuses.

Regarding claim 26, McDowell as modified discloses threshold the audio level (See McDowell, step 136 Figure 9; column 12, lines 3-8).

7.   Claims 2, 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Frian (US 6,047,178) in further view of Fiocca (US 5,625,743).

Regarding claim 2, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually irrelevant information according to human sensitivity (column 11, lines 25-46). McDowell as modified fails to disclose using a psychoacoustic model to determine a perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6,lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determined a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

Regarding claim 11, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually irrelevant information according to human sensitivity (column 11, lines 25-46). McDowell as modified fails to disclose using a psychoacoustic model to determine a perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6,lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determined a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

Regarding claim 20, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually

irrelevant information according to human sensitivity (column 11, lines 25-46).

McDowell as modified fails to disclose using a psychoacoustic model to determine a

perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic

model to determine a perceived level of the measured audio signal according to human

sensitivity (column 6,lines 57-67). It would have been obvious to modify McDowell so

that the psychoacoustic model is used to determined a perceived level of the measured

audio signal according to human sensitivity so that cut out unnecessary data in an audio

signal thereby reducing the computational load on the processor.

8.   Claims 4,5,13,14,22 and 23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in

further view of Frian (US 6,047,178) in further view of Kallergis (US 4,934,483).

Regarding claim 4, McDowell as modified fails to disclose weighting an

instantaneous level.   Kallergis teaches of weighting an overall sound pressure level

(column 2, lines 43-45). Weighting is known in the art and can be applied to any set of

data, including sound data.   It would have been obvious to modify McDowell as

modified to include weighting of the instantaneous level to give it more influence in the

final output.

Regarding claim 5, McDowell as modified fails to disclose weighting an overall

level.   Kallergis teaches of weighting an overall sound pressure level (column 2, lines

43-45). Weighting is known in the art and can be applied to any set of data, including

sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

Regarding claim 13, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 14, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

Regarding claim 22, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 23, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including

sound data.   It would have been obvious to modify McDowell as modified to include

weighting of the overall level to give it more influence in the final output.

9.   Claims 7,16 and 25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in

further view of Frian (US 6,047,178) in further view of Smith (US 2002/0173864).

Regarding claim 7, McDowell as modified discloses processing an audio level

over time. McDowell as modified fails to disclose averaging the audio level over time.

Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025;

page 3,paragraph 0029 and 0037). It would have been obvious to modify McDowell as

modified to include averaging the audio level over time in order to provide improved

automatic volume control.

Regarding claim 16, McDowell as modified discloses processing an audio level

over time. McDowell as modified fails to disclose averaging the audio level over time.

Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025;

page 3,paragraph 0029 and 0037). It would have been obvious to modify McDowell as

modified to include averaging the audio level over time in order to provide improved

automatic volume control.

Regarding claim 25, McDowell as modified discloses processing an audio level

over time. McDowell as modified fails to disclose averaging the audio level over time.

Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025;

page 3,paragraph 0029 and 0037). It would have been obvious to modify McDowell as

modified to include averaging the audio level over time in order to provide improved

automatic volume control.

7.   Claims 6,15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable

over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of

Frian (US 6,047,178) in further view of Pai et al. (6,801,886).

        Regarding claim 6, McDowell as modified discloses sub-band data. McDowell as

modified fails to disclose that the sub-band data represents the audio signal's strength

in a frequency band represented by a sub-band at a particular point in time. Pai

discloses sub-band data that represents the audio signal's strength in a frequency band

(column 8, lines 33-35). It would have been obvious to modify McDowell as modified so

that the sub-band data represents the audio signal's strength in a frequency band

represented by a sub-band at a particular point in time for the benefit of providing

refined audio data.

        Regarding claim 15, McDowell as modified discloses sub-band data. McDowell

as modified fails to disclose that the sub-band data represents the audio signal's

strength in a frequency band represented by a sub-band at a particular point in time.

Pai discloses sub-band data that represents the audio signal's strength in a frequency

band (column 8, lines 33-35). It would have been obvious to modify McDowell as

modified so that the sub-band data represents the audio signal's strength in a frequency

band represented by a sub-band at a particular point in time for the benefit of providing

refined audio data.

Regarding claim 24, McDowell as modified discloses sub-band data. McDowell

as modified fails to disclose that the sub-band data represents the audio signal's

strength in a frequency band represented by a sub-band at a particular point in time.

Pai discloses sub-band data that represents the audio signal's strength in a frequency

band (column 8, lines 33-35). It would have been obvious to modify McDowell as

modified so that the sub-band data represents the audio signal's strength in a frequency

band represented by a sub-band at a particular point in time for the benefit of providing

refined audio data.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DEVONA E. FAULK whose telephone number is

(571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/
Examiner
Art Unit 2615
5/21/2008